

ABSTRACT

An electronic control, with a floating ac power supply, that compares the digital signals produced by electrical connections between ac circuit nodes and digital nodes to ~~determine~~ ascertain whether path(s) in ac circuits containing the
5 ac nodes are intact or open. The connections are made through passive components which limit the current between nodes to levels the digital devices can safely handle. An open path indicates to the control that a an ac switching device is open, a connection has failed, or a that a an ac load component has failed or is missing. An ac switching device, hereinafter referred to as a switch
10 may be a switch, relay, triac or similar device, the state of the switch being set by the control or other means. An intact path indicates a closed switch or a present and presumably functional load component. Proper connections enable the control to detect the state of multiple paths while still being able to detect zero crossings. The method can ~~determine~~ ascertain the state of ac paths even if
15 hot and neutral connections are inadvertently reversed.